

ABSTRACT OF THE INVENTION

A normally open fluid manipulation valve assembly and system, and a method for closing, re-opening and re-closing same. The normally open valve assembly can include a substrate including a first surface, with first and second recesses formed in the first surface. A recessed channel can be formed in the first surface. The recessed channel can extend from the first recess to the second recess and can be at least partially defined by a first deformable material having a first modulus of elasticity. The valve assembly can also include an elastically deformable cover. The elastically deformable cover can include a layer of an elastically deformable material having a modulus of elasticity that is greater than the modulus of elasticity of the first deformable material, and an adhesive layer that contacts the first surface of the substrate.